INFILL AND RESIDENTIAL DEVELOPMENT STUDY
STORMWATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL RECOMMENDATIONS

SW 7

ISSUE: Improve the County's Erosion and Sedimentation Control Program.

IDEA: Evaluate the efficiency, capabilities and limitations of erosion and sediment controls requirements and recommend opportunities for improvement(s). Optional use of *Chemical Erosion Preventive Products* (CEPP) as an erosion control measure on construction sites

RESEARCH: This idea was developed on the basis of (a) discussion with manufacturers and erosion and sediment control experts; (b) experience of team members especially those of Office of Site Development Services, Division of Environmental and Facilities Inspection, and Northern Virginia Soil and Water Conservation District; (c) review of relevant publications by organizations such as the Metropolitan Washington Council of Governments (MWCOG), the Center for Watershed Protection (CWP), and the International Erosion Control Association (IECA).

ANALYSIS: The best way to prevent the migration of sediments from construction sites is to prevent erosion from happening in the first place. One way of preventing erosion is to stabilize denuded land immediately after clearing. Stabilization can be achieved primarily by seeding and mulching within a certain period after clearing.

However, from the time the soil is denuded until seeds are established the soil will be susceptible to erosion. This susceptibility is particularly important for soils with severe erosion potential located on slopes.

Chemical Erosion Prevention Products (CEPP) have been used for many years in agriculture to control wind and water erosion and in civil engineering to stabilize slopes. They are effective and well investigated, and in many cases, they have low costs. Most important, they become effective immediately after application.

These products bind fine colloidal soil particles together, building larger soil particles (aggregates). Even if the larger particles are moved by water, they will easily settle by gravity when intercepted by a silt fence or a sediment trap, or when they reach a protected inlet.

Runoff from location where CEPP has been used is much less turbid compared with runoff from the same location when not treated. CEPP can be integrated with other erosion and sediment control measures on construction sites to minimize the sediment load leaving the sites.

EFFECTS:

- Effectively minimizes erosion on construction sites
- Decreases sediment load in runoff
- Has relatively low costs

TEAM RECOMMENDATIONS:

- An evaluation team should review and recommend *Chemical Erosion Preventive Products* (CEPP) for use in Fairfax County as an erosion control measure on construction sites
- The team should prepare specifications, including amount, application technique, and conditions where CEPP would be most effective
- Adoption of the proposed technique by the Board of Supervisors for incorporation into the Public Facilities Manual and Chapter 104 of the County Code as appropriate